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ABSTRACT

The authors, experienced with educable and trainable mentally handicapped fifth and sixth graders, describe a procedure for training handicapped students to tutor their nonhandicapped peers (reverse role tutoring) to enhance handicapped students' abilities in the areas of academic achievement, personal/social adjustment, and decision making/moral reasoning. The following tasks are described for implementing a reverse role tutoring project: determine purpose(s) of program; determine type of tutoring (across age, peer, or adult child); choose a content area (sign language, the arts, reading and math); design program (tutor training, instructional materials, scheduling tutoring); train tutors (demonstrate the learning task, prompt the tutee if needed, monitor tutee performance, and provide praise and corrective feedback); supervise tutoring; and measure results. (SB)

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TRAINING HANDICAPPED STUDENTS TO TUTOR THEIR NONHANDICAPPED PEERS

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TRAINING HANDICAPPED STUDENTS TO TUTOR THEIR NONHANDICAPPED PEERS

The scene takes place in a self-contained classroom for educable and trainable mentally handicapped students. For the past three weeks these fifth and sixth grade students have been trained to tutor their regular classroom peers in basic sign language. In order to measure their readiness for the tutoring task, a training assistant enters the self-contained classroom and selects handicapped students to tutor him. The first student is a small, dark-haired, ten year old boy with a mental-age of 4 years 3 months. The trainer greets the boy and they sit down. The trainer then points to a sheet of paper depicting the alphabet in American Sign Language.

"Can you teach me the sign to these letters?" asks the trainer. "Sure, I'll be your tutor," the student responds. Demonstrating each sign, the tutor says, "This is 'A', now you do it, good, 'B', good," etc. To test the tutor's ability to handle incorrect responses, the trainer uses faulty hand shapes for the letters "D", "F", and "H". Following the session, the tutor turns to the trainer and says, "Do you have a wife?" "Yes, why do you ask?" queries the trainer. "Does she know sign language?" "Yes," responds the trainer, still confused."Well, when you go home tonight, you ask your wife to help you with these signs (pointing to 'D', 'F', and 'H'). You need a lot of help on these."

The scene is important because it shows that handicapped students can learn to tutor. They can learn to demonstrate, monitor and give appropriate feedback--even to students who are viewed as being more capable. The scene is based on an actual experience which was part of a research project investigating the effects of training handicapped students to tutor their nonhandicapped peers (Osguthorpe and

Custer, 1982). The research grew out of the findings of literature reviews on tutoring (Osguthorpe, 1980) and social acceptance (Custer, 1982). These reviews indicated that: 1) handicapped students continue to experience serious social rejection from their nonhandicapped peers, 2) intervention strategies to improve social acceptance have met with mixed results, 3) peer tutoring has been shown to improve both the academic achievement and personal/social development of tutors, and 4) handicapped students have seldom been trained as tutors of other handicapped students and never as tutors of nonhandicapped students.

The purpose of this article is to describe a procedure for training handicapped students to tutor their nonhandicapped peers (reverse-role tutoring). While the procedure is based on experience with mentally handicapped students, it is hoped that similar projects will be conducted with students with other handicapping conditions.

The following tasks will be described for implementing a "reverse-role tutoring" project.

- Determine purpose(s) of program
- Determine type of tutoring
- Choose a content area
- Design program
- Train tutors
- Supervise tutoring
- Measure results

Determine Purpose(s) of Program

A reverse-role tutoring project might be implemented to enhance handicapped students' abilities in any of the following areas: 1) academic achievement, 2) personal/social adjustment or 3) decision-making/moral reasoning.

Academic achievement. Most tutoring programs focus on improving students' verbal or quantitative skills. Since most handicapped students have academic difficulty, reverse-role tutoring projects are likely to focus on this skill area. Research with nonhandicapped students has shown that tutors learn as much as their tutees about the academic subject they are teaching (Hartley, 1977). This means that if handicapped tutors in the sixth grade are assigned to tutor nonhandicapped students in the first grade in math, both groups should make approximately equal growth in math skills. This finding alone makes it easy to justify the reverse-role tutoring project to teachers and parents.

Personal/social adjustment. Some tutoring projects focus more on the improvement of self-concept or social acceptance than on academic achievement (Osguthorpe and Custer, 1982). These types of projects have nearly always relied on the act of tutoring itself as an aid to personal/social growth. In other words, math, reading, or language topics have usually been the tutoring content rather than "ego development" or "communication skills."

In determining the advisability of this goal for a reverse-role tutoring project, the specific personal/social needs of handicapped participants should be assessed. Some students have pressing needs for improved self-esteem and social acceptance, while other students do not. The critical thing is to pre-assess this need and then to decide if it should be a primary or secondary goal of the project.

Decision-making/moral reasoning. Because of limited life experience many handicapped students have difficulty making moral judgments. Since the role of tutor requires the handicapped students to make decisions that affect the well-being of another person, the act of tutoring has the potential of enhancing a student's ability to act responsibly and independently. If this is selected as a primary purpose of a reverse-role tutoring project, steps should be taken early to

ensure that training procedures and content selection will help to achieve this goal. While the personal/social effects of tutoring have been measured with a variety of academic contents, decision-making/moral reasoning projects have usually included moral judgment topics as the actual content to be taught.

Determine Type of Tutoring

An initial step in implementing any reverse-role tutoring program is the decision to use a cross-age, peer, or adult-child tutoring system. Each type of tutoring poses unique challenges and offers unique advantages.

Cross-age tutoring. Due, perhaps, to the modeling effect, cross-age tutoring appears to be the most effective type of tutoring for teaching an academic content to tutees (Hartley, 1977). Since so little research has been conducted with handicapped cross-age tutors, we have yet to find if the benefits documented with other students will transfer to handicapped students. Cross-age tutoring, nonetheless, offers great flexibility in the school setting. For example, sixth grade mentally handicapped students could tutor younger handicapped or nonhandicapped students in reading, math or some other content area.

Learning disabled or behaviorally handicapped students could also be trained to tutor younger students in an academic content area. While the tutors may know less then their peers about reading and math, most should know enough to be able to tutor a child in first or second grade. This type of a system requires careful pre-assessment of tutors' and tutees' academic skills (in the tutoring content), as well as careful pairing of tutors with tutees.

When cross-age tutoring is employed, the purposes of the project are affected. If the primary goal of a project is to enhance social acceptance of handicapped students, peer tutoring may be more effective than a cross-age system. While tutors may experience growth in self-esteem from acting as cross-

age tutors, social-acceptance among peers may be much less affected. Cross-age systems, however, offer flexibility in tailoring academic content tutoring to the specific needs of both tutors and tutees.

Peer tutoring. As students mature, peer tutoring provides them with the opportunity of tutoring each other and even trading roles. Students in secondary or post-secondary schools usually benefit most from the peer tutoring configuration. One of the unique advantages of peer tutoring is the emphasis on peer social interaction. If the goal of tutoring project is to promote social interaction between handicapped and nonhandicapped students, peer tutoring is the most logical system. From research gathered to this point, it would appear that mentally handicapped students can be trained to function as peer tutors as early as the third grade (Osguthorpe and Custer, 1982). With the proper training and support, younger handicapped students may also be able to function successfully as peer tutors.

One of the unique advantages of peer tutoring is the ease with which tutors can be asked to tutor both handicapped and nonhandicapped tutees. Handicapped students in a self-contained classroom or resource room may be trained to tutor each other (trading roles of tutor and tutee) and then to tutor their nonhandicapped peers. The peer tutoring in the classroom causes no disruption (because of increased student involvement) and allows handicapped students to practice the tutoring role before encountering their nonhandicapped peers.

Adult-child tutoring. A common form of tutoring with handicapped students involves an adult professional tutoring younger students. In the reverse-role situation a handicapped adult would function as a tutor. This is a common occurance at schools for the deaf, for example, where deaf professionals tutor younger students. Because this type of tutoring places nearly all of the emphasis on the growth of the tutee, however, it offers less than the other types (cross-age and

peer) in personal/social adjustment and decision-making skills. Training handicapped college students (learning disabled or hearing-impaired) to tutor nonhandicapped children; or training severely mentally handicapped adults to tutor younger children may have merit for the tutors. These types of tutoring, however, have received much less attention from researchers than peer or cross-age tutoring (Wagner, 1973).

Variations. Some variations of the traditional types of tutoring may be used to meet specific needs of handicapped tutors. For example, triad tutoring may be effective for tutors with severely impaired communication skills or mental deficiencies. Triad tutoring occurs when two handicapped students tutor one nonhandicapped student. A nonvocal mentally handicapped or hearing-impaired tutor may benefit from a handicapped tutoring assistant whose speech is more intelligible.

Ripple tutoring is another variation which often permits handicapped tutors to develop tutoring skills at their own pace. Ripple tutoring occurs when a few handicapped students are trained to tutor each other, then the pool of tutors is gradually expanded by training the handicapped tutees as tutors. For instance, four learning disabled students are trained to tutor four behaviorally handicapped students. These four tutees are then trained as tutors and all eight begin tutoring eight mentally handicapped students. Following several weeks of tutoring, these 8 tutees are trained as tutors and begin tutoring 16 new learning disabled students. Following the training of the 16 learning disabled tutees, a corps of 32 handicapped tutors is supervised in tutoring 32 nonhandicapped peers.

Choose a Content Area

Once the specific purposes and type of tutoring have been selected for a reverse-role tutoring project, the content for tutoring can be chosen. At first

glance it may seem that the selection of content is included in the determination of the purpose of the program. However, when the primary purpose of the tutoring project is to improve personal/social adjustment, a variety of contents can be selected. Included in this section are descriptions and suggestions for using several broad content areas in reverse-role tutoring projects.

Sign language. Osguthorpe and Custer (1982) used sign language in their study to improve the social acceptance of mentally handicapped students. There are several advantages to sign language as a reverse-role tutoring content. First, some handicapped children are already fluent in sign language, shortening the training time for tutors. Second, sign language is an unknown topic to most nonhandicapped children, allowing the handicapped children to master a cognitive task which is unfamiliar to their nonhandicapped peers. Third, music can be easily introduced into the tutoring setting by allowing tutors to teach their learners to interpret a song. Fourth, the content of sign language is a strong reinforcement for other language arts instruction for communication-impaired children.

Because sign language is an unknown topic to most nonhandicapped children, it is an excellent content for peer tutoring situations. If a reverse-role tutoring project involves learning disabled, mentally handicapped, or hearing-impaired students, a content must be identified which is more familiar to handicapped students than to their nonhandicapped peers. For social acceptance purposes sign language also provides an excellent opportunity for intense interpersonal communications during the tutoring sessions.

The arts. Music and the visual arts can also be effective tutoring contents when handicapped students are trained to tutor their nonhandicapped peers. Handicapped tutors can first be trained in an instrument or a visual art technique that is unfamiliar to their nonhandicapped peers. Once they are proficient with the

instrument or technique, they can then be asked to tutor their peers. Because many handicapped students have physical coordination problems, care must be taken to ensure that the appropriate instrument or artistic technique is selected.

Reading and math. Reading and math contents are usually more appropriate for cross-age tutorial projects than for peer tutoring. When handicapped students are asked to tutor younger students in reading or math, pre-assessment of those academic skills should be completed for both tutors and tutees. Materials that include detailed instructions for the handicapped tutors should be used. Tutors should not be expected to make complex instructional diagnostic decisions but rather should carry out instructional prescriptions selected by the teacher or tutor manager.

Design Program

If a reverse-role tutoring project is to be successful, careful design must precede implementation. If each segment of the program is carefully designed, handicapped tutors will be comfortable in their role and will thus experience personal and academic growth.

Tutor training. The first step in designing a reverse-role tutoring project is to determine the types of training that are needed for handicapped tutors. Enough time needs to be planned in the project to allow trainers to meet with handicapped tutors until they gain enough proficiency to meet with their tutees. The purposes and content selected for a tutoring project will determine the length of training needed for handicapped tutors. If tutors are going to work with younger students in reading and math, extensive training in the content will not be necessary. If, however, tutors will be working with their peers in sign language or a music content area, careful attention should be given to those contents in the tutor training program. Handicapped students must feel confident in the content area prior to working with their nonhandicapped peers.

Teachers and tutees. Prior to the implementation of a tutoring project meetings should be planned with teachers, administrators and student tutees. Each of these groups should understand their specific roles in the project and the expected duration of the tutoring.

Instructional materials. While some tutoring materials developed for nonhandicapped students may be useful in reverse-role tutoring projects, most programs will require the development of new instructional materials. Many of the existing tutoring materials require at least moderate levels of reading and would therefore be inappropriate for many nonhandicapped tutors. The sign language materials developed by Osguthorpe and Custer (1982) included heavy use of pictorial cues and prompts rather than relying on tutors' reading skills. Whatever the content area, reverse-role tutoring materials must include adequate cues so that the tutors' reliance on memory is minimized.

Scheduling tutoring. Before a project is implemented special education teachers should meet with regular classroom teachers and arrange a convenient schedule for tutoring. This is perhaps one of the most difficult tasks in designing a reverse-role tutoring project. Many successful tutoring programs have been discontinued simply because convenient times and space were not found for the tutoring sessions. When the tutoring schedule is arranged, efforts should be made to ensure that tutoring might occur at least two to three times per week. The younger the tutors and tutees, the more important is the frequency of the tutoring sessions.

Train Tutors

Few handicapped students view themselves as teachers, tutors, or decision makers. Most have become comfortable with the role of student and find it difficult to assume the role of tutor. Providing handicapped students with effective

tutor training is perhaps the most important task of any reverse-role tutoring project. Along with training in the specialized content area to be tutored, the following techniques should be emphasized in the tutor training:

1) Demonstrate the learning task.

2) Prompt the tutee if needed.

3) Monitor tutee performance.

4) Provide praise and corrective feedback.

Tutors must be trained to demonstrate the learning task before asking a student to perform it. When handicapped students are tutoring their nonhandicapped peers, the tutors commonly expect the tutee to already know what is being taught. For this reason, tutors must be trained to show the student how to perform the task as the first step in tutoring. Once tutors have mastered the demonstration technique, they should be trained to ask the student to perform the task simultaneously with them. During this step in tutoring the tutors should be trained to prompt the student if they need help. The most appropriate prompt is usually to redemonstrate the learning task and ask the student again to do it simultaneously with the tutor. After the tutor and tutee have performed the learning task together, tutors should be trained to ask the tutee to perform the task alone without any help. During this step tutors must be trained to monitor the tutees' performance. Again, some handicapped tutors often feel that because they have demonstrated the learning task that the tutee has automatically learned it. Teaching tutors to watch the tutee and monitor performance can be difficult for some tutors. Following this monitoring phase the tutor must be trained to provide praise or corrective feedback. These types of feedback can be communicated in a variety of ways. If handicapped tutors are nonvocal, they can be trained to smile or pat the tutee on the back for good performance. A simple nod of the head will tell tutees that they performed the task correctly.

Tutors must be trained to go through the cycle of tutoring steps for each of the learning tasks they are attempting to teach. For example, if a handicapped tutor is tutoring a nonhandicapped peer in sign language, the tutor would first demonstrate the hand shape for the letter "A", ask the student to do the sign for "A" together, ask the student to do the sign for "A" alone, and finally praise the student for doing the sign correctly or help to shape the tutee's hand correctly.

Supervise Tutoring

Reverse-role tutoring projects usually require much more supervision than other types of tutoring projects. Trainers should not expect tutors to have total mastery of the tutoring role during the first week of tutoring. Even though tutors may become proficient at role playing the part of tutor with each other during the training sessions, they must still become accustomed to the new situation of tutoring an unfamiliar student. Enough training assistance should be available to monitor each tutoring pair especially during the first two weeks of tutoring. This can be accomplished by employing teacher aids, volunteer parents, or by simply scheduling only two or three tutoring pairs to a session. During the first few weeks of tutoring many handicapped tutors have difficulty remembering what they should do next. If adequate supervision is provided, this does not pose a problem to either the tutor or the tutee. Nonhandicapped tutees are usually patient with the tutor and wait for direction.

Measure Results

Almost no systematic research has been conducted with handicapped students as tutors. When tutoring projects have been implemented with handicapped students, data collection has been seriously overlooked or deemphasized. If the true effects of reverse-role tutoring are to be validated, serious thought should be given to the proper research design and measurement techniques. Because most

handicapped students have communication impairments, existing measurement instruments are often inappropriate and not reliable. For example, actual observation of student interaction is preferable to the administration of sociometric questionnaires when attempting to assess the effects of tutoring on socialization. When implementing a reverse-role tutoring project, careful attention should be given to the design and use of appropriate instrumentation to ensure that the effects of the project are validly measured.

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